INDEX TO VOLUME 103

New scientific names are in bold face.

Alliaria petiolata 323–325
Anderson, Michelle L. 1–46
Andrus, Richard E. 245–262
ANNOUNCEMENT:
New England Botanical Club Graduate Student Research Award 348–349
Aquilegia 87–95; ***desolaticola***, sp. nov. 89–90; ***fosteri***, comb. nov. 90–92; ***loriae***, sp. nov. 92–95
Araceae 387–404
Arisaema triphyllum 387–404
Aristolochia macrophylla, tomentosa 427–430
Arizona 71–95
Ascher, Ryan 224–226
Aster 202–218
Asteraceae 151–171
Astereae 202–218
Astragalus lentiginosus 77–83; var. *mokiacensis* 79–81; var. *pallans* 78–79; var. ***trumbullensis***, var. nov. 81–83; key to distinguish the varieties 77–78
Atwood, N. D. 71–95

Beaman, John H. and L. Alan Prather. John Alvord Churchill, M.D., 1920–2000: An appreciation. 435–444 (In Memoriam)
Beaver (*Castor canadensis*) 293–320
Beck, James A., Robert F. C. Naczi, and Patrick J. Calie. Insights into the species delineation and population structure of *Solidago shortii* (Asteraceae) through morphometric analysis. 151–171
Bertin, Robert I. Life cycle, demography, and reproductive biology of herb Robert (*Geranium robertianum*). 96–116
Biennial 96–116
Biogeography 137–150
Bolivia 326–331
BOOK REVIEWS:
Fern Grower's Manual. 340
Flora of Florida. Volume 1. Pteridophytes and Gymnosperms. 335–339
Synthesis of the North American Flora, Version 1.0. 233–237
Gleason's Plants of Michigan: A Field Guide. 445
Boufford, David E. 137–150
Brassicaceae 323–325
Brave Boat Harbor, ME 1–46, 172–201
Buckleya 137–150; key to species 147
Burk, C. John and Tad M. Zebryk. Woody *Aristolochia* species in western Massachusetts. 427–430 (New England Note)

Calie, Patrick J. 151–171
Campbell, Christopher S. 351–379
Capers, Robert S. and Donald H. Les. An unusual population of *Podostemum ceratophyllum* (Podostemaceae) in a tidal Connecticut river. 219–223 (New England Note)
Carbon assimilation 387–404
Carex 351–379; *bebbii, oronensis, ovalis, scoparia* var. *tessellata, tincta*, section *Ovales* 351–379; *oronensis*, distribution map 353, description 376
Central America 120–122, 227–232
Checklist for contributors to Rhodora 129–135
Checklist of *Sphagnum* in New Hampshire. 245–262
Checklist of vascular flora, Hubbard Brook experimental watersheds 287–293
Chromosome number determinations in fam. Compositae, tribe Astereae. VI. Western North American

taxa and comments on generic treatments of North American asters. 202–218
Chromosome numbers, asters 202–218
Churchill, John Alvord, M.D., 1920–2000: An appreciation 435–444
Cladonia leporina 405–415
Cladoniaceae 405–415
Cleavitt, Natalie L., Richard E. Andrus, Daniel D. Sperduto, William F. Nichols, and William R. Town. Checklist of *Sphagnum* in New Hampshire. 245–262
Compositae 71–73, 202–218
Composition, structure, and dynamics of vegetation in fifteen beaver-impacted wetlands in western Massachusetts. 293–320
Connecticut 219–223, 416–426
Conservation 47–70, 351–379, 431–434
Conservation status of *Carex oronensis* (Cyperaceae), a Maine endemic. 351–379
Conservation status of Saint John River Valley Hardwood Forest in western New Brunswick. 47–70
Cook, Rachel 202–218
Costa Rica 227–232
Crow, Garrett E. 263–292, 326–331
Crow, Garrett E. *Utricularia myriocista* (Lentibulariaceae) in Costa Rica: A new record for Central America. 227–232 (Note)
Cyperaceae 351–379
Cyperus diandrus: Another Nova Scotian rare plant from a rare lake type. 332–334 (Note)
Cytotaxonomy 202–218

Dawes, Clinton J. 1–46, 172–201
Deciduous forest 47–70
Demography 96–116
Dessication tolerance 416–426
Dibble, Alison C. and Christopher S. Campbell. Conservation status of *Carex oronensis* (Cyperaceae), a Maine endemic. 351–379
Discovery of two new *Lycopodiella* (Lycopodiaceae) in Maine. 431–434 (New England Note)
Distribution map, *Solidago shortii* 154; *Sphagnum* 251; *Carex oronensis* 353
DNA 137–150
Donoghue, Michael J. 137–150
Drayton, Brian. A new record for *Alliaria petiolata* (Brassicaceae) in Hillsborough County, New Hampshire. 323–325 (New England Note)
Dunphy, Megan E., Daniel C. McDevit, Christopher E. Lane, and Craig W. Schneider. The survival of *Vaucheria* (Vaucheriaceae) propagules in desiccated New England riparian sediments. 416–426

East Asia 137–150
Ecad ecology 172–201
Ecology 1–46
Endangered species 151–171
Endemic plant, Maine 351–379
Engstrom, Brett 117–119
Erigeron 202–218
***Erigeron huberi*, sp. nov. 71–73**
Eucephalus 202–218
Eurybia 202–218

Fabaceae 321–322
Facultative biennial 96–116
First record of *Populus heterophylla* (swamp cottonwood, Salicaceae) in Massachusetts. The, 224–226 (New England Note)
Five new combinations in the genus *Morella* (Myricaceae) for neotropical species. 120–122 (Note)
Flora 263–292
Floristic diversity 263–292
Floristic diversity in the experimental watersheds of the Hubbard Brook Experimental Forest, New Hampshire, USA. 263–292
Forest ecosystems 263–292
Fucoid algae 172–201
Fucus 172–201

Gender switching 387–404
Gender-related differences in gas exchange rates in the gender-switching species *Arisaema triphyllum* (Araceae). 387–404
Geranium robertianum 96–116
Growth dynamics and the taxonomic status of *Cladonia leporina*. 405–415

Haines, Arthur. Discovery of two new *Lycopodiella* (Lycopodiaceae) in Maine. 431–434 (New England Note)
Hammer, Samuel. Growth dynamics and the taxonomic status of *Cladonia leporina*. 405–415
Hehre, Edward J. 1–46
Herb Robert 96–116
Herbaceous recovery 263–292
Heterotheca sessiliflora var. ***echioides***, comb. et stat. nov. 203; var. ***fastigiata***, comb et stat. nov. 203–204
Hill, Nicholas M. *Cyperus diandrus*: Another Nova Scotian rare plant from a rare lake type. 332–334 (Note)
Hillsborough County, NH 323–325
Horsburgh, Mark 202–218
Hubbard Brook Experimental Forest 263–292; map 266
Hydrology 293–320

In Memoriam 435–444
Insights into the species delineation and population structure of *Solidago shortii* (Asteraceae) through morphometric analysis. 151–171
Intraspecific variation 151–171
ITS sequences 137–150

John Alvord Churchill, M.D., 1920–2000: An appreciation. 435–444 (In Memoriam)
Juncaginaceae 117–119

Kentucky 151–171

Labiatae 74–77
Lane, Christopher E. 416–426
Lapin, Marc and Brett Engstrom. *Triglochin maritima* (Juncaginaceae) discovered in Vermont. 117–119 (New England Note)
Leguminosae 77–83
Lentibulariaceae 227–232
Les, Donald H. 219–223
Li, Jianhua, David E. Boufford, and Michael J. Donoghue. Phylogenetics of *Buckleya* (Santalaceae) based on ITS sequences of nuclear ribosomal DNA. 137–150
Lichen morphogenesis 405–415
Life cycle 96–116
Life cycle, demography, and reproductive biology of herb Robert (*Geranium robertianum*). 96–116
Life history 96–116
Lisa A. Standley. A new Massachusetts record for *Ornithopus sativus* (Fabaceae). 321–322 (New England Note)
Long Term Ecological Reserve (LTER) 263–292
Lycopodiaceae 431–434
Lycopodiella alopecuriodes, appressa, inundata 431–434; distinguishing features 431–432

MacDougall, Andrew. Conservation status of Saint John River Valley Hardwood Forest in western New Brunswick. 47–70
Maine 1–46, 47–70, 172–201, 351–379, 431–434
Malvaceae 82–86
Massachusetts 96–116, 224–226, 293–320, 321–322, 427–430
Mathieson, Arthur C. and Clinton J. Dawes. A muscoides-like *Fucus* from a Maine salt marsh: Its origin, ecology, and taxonomic implications. 172–201
Mathieson, Arthur C., Clinton J. Dawes, Michelle L. Anderson, and Edward J. Hehre. Seaweeds of the Brave Boat Harbor salt marsh and

adjacent open coast of southern Maine. 1–46
McDevit, Daniel C. 416–426
McMaster, Nancy D. 293–320
McMaster, Robert T. and Nancy D. McMaster. Composition, structure, and dynamics of vegetation in fifteen beaver-impacted wetlands in western Massachusetts. 293–320
Meristems 405–415
Mexico 120–122
Molecular clock 137–150
Morella 120–122; ***holdridgeana***, comb. nov. 121; ***phanerodonta***, comb. nov. 121; ***picardae***, comb. nov. 122; ***pringlei***, comb. nov. 121; ***pubescens***, comb. nov. 121
Morphology 351–379
Morphometrics 151–171
Muscoides-like *Fucus* from a Maine salt marsh: Its origin, ecology, and taxonomic implications. A. 172–201
Myricaceae 120–122

Naczi, Robert F. 151–171
Naturalized species, Massachusetts 427–430
Nearshore open coast 1–46
NEBC Meeting News 124–128, 238–243, 341–347, 447–451
Neotropical species 120–122
New Books 123, 446
New Brunswick 47–70
New combinations, *Aquilegia* 90–92; *Heterotheca* 203–204; *Morella* 120–122
New Hampshire 245–262, 263–292, 323–325
New Massachusetts record for *Ornithopus sativus* (Fabaceae). A. 321–322 (New England Note)
New record for *Alliaria petiolata* (Brassicaceae) in Hillsborough County, New Hampshire. A. 323–325 (New England Note)
New records, Bolivia 326–331; Central America 227–232; New England 117–119, 224–226, 321–322, 323–325, 431–434; Nova Scotia 332–334
New species, *Aquilegia* 89–90, 92–95; *Erigeron* 71–73; *Oenothera* 86–88
New taxa and nomenclatural proposals in miscellaneous families—Utah and Arizona. 71–95
New varieties, *Astragalus* 81–83; *Salvia* 74–77; *Sphaeralcea* 82–86
Nichols, William F. 245–262
Nomenclature 71–95
Nova Scotia 332–334
Nuclear ribosomal DNA 137–150
Nymphaea in Bolivia 326–331; new records 327–329; key 329–330
Nymphaea (Nymphaeaceae) in Bolivia: Notes on several species, three new country records, and a key to species. 326–331 (Note)
Nymphaeaceae 326–331

Oenothera murdockii, sp. nov. 86–88
Onagraceae 86–88
Orchidaceae 380–386
Order Form, Index to Volumes 76–100. 244, 350
Oreostemma alpigenum subsp. ***haydenii***, comb et stat. nov. 204
Ornithopus sativus 321–322

Photosynthesis 387–404
Phylogenetics of *Buckleya* (Santalaceae) based on ITS sequences of nuclear ribosomal DNA. 137–150
Phylogeny, *Buckleya* 137–150
Plant conservation 351–379
Plant endemism 351–379
Platanthera aquilonis, *hyperborea* 380–386
Podostemaceae 219–223
Podostemum ceratophyllum in a tidal Connecticut river 219–223
Pollination 380–386
Populus heterophylla 224–226
Prather, L. Alan 435–444
Propagules 416–426

Ranunculaceae 87–95
Rare and endangered species, *Podostemum ceratophyllum* 219–223
Rare plant, Nova Scotia 332–334
Rare vascular plant taxa 47–70; checklist for St. John River Valley Hardwood Forest 58–59
Reviewers of Manuscripts 452
Riparian sediments 416–426
Ritter, Nur P., Garrett E. Crow, and John H. Wiersema. *Nymphaea* (Nymphaeaceae) in Bolivia: Notes on several species, three new country records, and a key to species. 326–331 (Note)
Riverweed 219–223
Role for water droplets in the pollination of *Platanthera aquilonis* (Orchidaceae). A, 380–386

Saint John River Valley Hardwood Forest 47–70
Salicaceae 224–226
Salt marsh 1–46; 172–201
Salt marsh algae 172–201
Salvia columbariae 74–77; var. ***argillacea***, var. nov. 74–77; key to distinguish var. ***argillacea*** from var. *columbariae* 74
Santalaceae 137–150
Schneider, Craig W. 416–426
Searcy, Karen B. and Ryan Ascher. The first record of *Populus heterophylla* (swamp cottonwood, Salicaceae) in Massachusetts. 224–226 (New England Note)
Seaweeds 1–46, 172–201
Seaweed development 172–201
Seaweeds of the Brave Boat Harbor salt marsh and adjacent open coast of southern Maine. 1–46
Seed banks 416–426
Self-pollination 96–116
Semple, John C., ChunSheng Xiang, Jie Zhang, Mark Horsburgh, and Rachel Cook. Chromosome number determinations in fam. Compositae, tribe Astereae. VI. Western North American taxa and comments on generic treatments of North American asters. 202–218
Sericocarpus 202–218
Sexual dimorphism 387–404
Sheviak, Charles J. A role for water droplets in the pollination of *Platanthera aquilonis* (Orchidaceae). 380–386
Solidago 202–218
Solidago shortii 151–171; distribution map 154
South America 326–331
Species boundaries 151–171
Species delineation and population structure of *Solidago shortii* (Asteraceae) through morphometric analysis. 151–171
Sperduto, Daniel D. 245–262
Sphaeralcea grossulariifolia var. ***fumariensis***, var. nov. 82–86; key to distinguish var. ***fumariensis*** from var. *grossulariifolia* and var. *moorei* 86
Sphagnum in New Hampshire 245–262; distribution map 251; checklist 257–262
Succession 263–292; wetland 293–320
Survival of *Vaucheria* (Vaucheriaceae) propagules in desiccated New England riparian sediments. The, 416–426
Swamp cottonwood 224–226
Symphyotrichum 202–209, 216–218; *yukonense* 206–207, 218

Taxonomic history 405–415
Taxonomy 172–201
Teeling, Leslie M., Garrett E. Crow, and Gary L. Wade. Floristic diversity in the experimental watersheds of the Hubbard Brook Experimental Forest, New Hampshire, USA. 263–292
Town, William R. 245–262
Triglochin maritima (Juncaginaceae) discovered in Vermont. 117–119 (New England Note)

Understory succession 263–292
Unusual population of *Podostemum ceratophyllum* (Podostemaceae) in a tidal Connecticut river. An. 219–223 (New England Note)
Utah 71–95
Utricularia myriocista (Lentibulariaceae) in Costa Rica: A new record for Central America. 227–232 (Note)
Utricularia myriocista 227–232

Vaucheria 416–426
Vaucheriaceae 416–426
Vegetation dynamics 293–320
Vermont 117–119
Vitt, Pati. Gender-related differences in gas exchange rates in the gender-switching species *Arisaema triphyllum* (Araceae). 387–404

Wade, Gary L. 263–292
Welsh, S. L. and N. D. Atwood. New taxa and nomenclatural proposals in miscellaneous families—Utah and Arizona. 71–95
West Indies 120–122
Wetland succession 293–320
Wetlands, beaver-impacted 293–320
Wiersema, John H. 326–331
Wilbur, Robert L. Five new combinations in the genus *Morella* (Myricaceae) for neotropical species. 120–122 (Note)
Woody *Aristolochia* species in western Massachusetts. 427–430 (New England Note)

Xiang, ChunSheng 202–218

Zebryk, Tad M. 427–430
Zhang, Jie 202–218